

HIGHER MATHEMATICS

COURSE INFORMATION

The aim of this course is to:-

- motivate and challenge learners by enabling them to select and apply mathematical techniques in a variety of mathematical situations
- develop confidence in the subject and a positive attitude towards further study in mathematics and the use of mathematics in employment
- deliver in-depth study of mathematical concepts and the ways in which mathematics describes our world
- allow learners to interpret, communicate and manage information in mathematical form; skills which are vital to scientific and technological research and development
- deepen the learner's skills in using mathematical language and exploring advanced mathematical ideas

The course consists of 3 units

- Expressions and Functions (EF)
- Relationships and Calculus (RC)
- Applications (APP)

Assessments

Unit assessments

- Students sit assessments for each of the units – this will be done in stages throughout the year.
- These assessments are designed to assess the basic skills learnt in each unit.
- All units must be passed.
- Students may re-sit the tests once, but the need to do so implies that either the student has not done sufficient work or that the student is attempting a course which is too difficult.

Prelims

- There are two Prelim Exams.
- The first prelim (after the Christmas Holidays) assesses work completed to December.
- The second prelim (after the Easter Holidays) assesses the whole course.

External Exam

- The External exam takes place in May and consists of 2 papers.
- Paper 1 (non-calculator) lasts for 1 hour 10 minutes. It will have 60 marks.
- Paper 2 (calculator allowed) lasts for 1 hour 30 minutes. It will have 70 marks.
- Both papers will consist of short and extended response questions.

Homework

Students are expected to take responsibility for their learning.

Homework is an integral part of the course and allows students to consolidate and revise skills learnt in class.

Students will be expected to complete set homework exercises on a regular basis, approximately every 2 weeks. A lot of class time will be spent discussing and demonstrating new concepts. Students will therefore be expected to complete routine exercises to practice new skills at home, if not completed in class. A reasonable amount of daily homework may be set to allow the class to progress from a common starting point in the next lesson.

It is essential that students meet the schedule set by the teacher, so that they have the necessary skills to progress.

Revision guide for students

Study throughout the year, not just in the run up to assessments. Do not cram all revision into the days before a test.

Review the work done in class each day. It may be useful to try some of the harder questions again.

Supported study will held on Monday lunchtime and Wednesday lunchtime (1.20pm – 1.55pm).

There are many websites which are useful for Higher Maths, eg.

- www.hsn.uk.net – excellent notes and a practice NAB.
- www.sqa.org.uk – official 'marking instructions'
- <https://sites.google.com/a/edubuzz.org/maths-past-papers/home/higherpast> – paper solutions
- www.mathsrevision.com – past paper solutions and notes.
- www.scruffs.shetland.co.uk – notes, worked examples and small tests

The department has revision material which can be transferred to a pen drive for use at home.

w/b	Unit	Topic (approx. timings – subject to change)	Assessment Standards	Test
29/05/17 05/06/17 12/06/17 19/06/17 26/06/17	APP APP	Essential skills for Higher Straight line Straight line Recurrence relations Recurrence relations	APP 1.3 APP 1.1	
	SUMMER HOLIDAY			
14/08/17 21/08/17 28/08/17 04/09/17 11/09/17 18/09/17 25/09/17 02/10/17	EF RC RC	Consolidate work completed in June Functions - transformation of graphs Functions - exp and log Functions - composite and inverse Differentiation - include sin/cos Differentiation - and optimisation Polynomials/Quadratic Theory Polynomials/Quadratic Theory	EF 1.3 RC 1.3 RC 1.1	TEST 1 TEST 2
09/10/17 16/10/17				
23/10/17 30/10/17 06/11/17 13/11/17 20/11/17 27/11/17 04/12/17 11/12/17 18/12/17	RC EF EF RC APP	Trigonometry - solving equations and identities Trigonometry - Addition formulae Trigonometry - Wave function Integration Integration Further calculus Further calculus Revision and catch-up Revision and catch-up	RC 1.2 EF 1.2 RC 1.4 APP 1.4	TEST 3 TEST 4
25/12/17 01/01/18				
08/01/18 15/01/18 22/01/18 29/01/18 05/02/18 12/02/18 19/02/18 26/02/18 05/03/18 12/03/18 19/03/18 26/03/18	EF EF APP	Revision Prelim Prelim Vectors Vectors Log and exponential functions Circle Circle Revision and resits Revision and resits Revision and resits Revision	EF 1.4 EF 1.1 APP 1.2	TEST 5
02/04/18 09/04/18				
16/04/18 23/04/18 30/04/18	Revision Revision Study leave begins			